



*Feather-lite 40-6 meter  
Vertical Antenna*

*Model MFJ-2980*



**INSTRUCTION MANUAL**

CAUTION: Read All Instructions Before Operating Equipment

**MFJ ENTERPRISES, INC.**

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# MFJ-2980 Feather-Lite 40-6 Meter Vertical Antenna

**Introduction:** The MFJ-2980 is a lightweight 31-foot fiberglass antenna designed to mount on any convenient post, mast, or a suitable wide-stance tripod such as the MFJ-1919. Because it collapses to less than four feet in length, it's the ideal choice for all-band coverage from your RV, campsite, condo, emergency station, or field day location. The MFJ-2980 features an effective Guanella balun and an easy-to-deploy counterpoise to deliver low-SWR on 40 meters (all other bands require an antenna tuner). All components are power tested to 600-Watt PEP, but lower power levels are suggested when operating in public areas to ensure bystander safety.

**Parts List:** Please inventory all items in your kit against the parts list below:

[ ]	1	MFJ-1910 fiberglass mast
[ ]	1	33-foot roll of jacketed antenna wire
[ ]	1	Plastic antenna-wire spooler
[ ]	2	Aluminum antenna mounting brackets
[ ]	5	Hose clamps
[ ]	1	Balun box
[ ]	1	Counterpoise kit (4 - #14 wires, PN 13-6160-1).
[ ]	1	Ring lug
[ ]	1	Spade lug

## Setting Up the Counterpoise:

- [ ] Connect the counterpoise wires to the black terminal post on the matching network.
- [ ] Spread the counterpoise wires out full-length, spaced 90-degrees apart

Do not anchor the counterpoise with a long conductive ground rod – it will de-tune the array on 40 Meters. The center and far ends of the counterpoise wires may be secured with non-conductive stakes or pins to hold them in place.

## Antenna Wire:

- [ ] Install the spade lug on one end of the 33 foot antenna wire (will connect to red terminal)

There are three options for installing the 33-foot antenna wire on the telescopic mast. You may (1.) secure it to the tip of the mast with tape and route it down the outside of the pole, (2.) insert it internally through the hollow core of the mast and attach it to the tip with tape, or (3.) insert it internally and attach it to a ring-lug at the tip for connecting a top hat or "T".

## Modifying Mast for Running Wire Internally:

- [ ] Remove the base plug and drill a 1/4" hole near its center to pass the wire.
- [ ] Remove the tip of the pole about 20 inches back from the end to expose the hollow opening.
- [ ] Route antenna wire through the base plug, through the nested sections, and out the end of the last section. Secure it in place using either method 2 or 3, shown below.

### Remove Tip of top section:



Using a fine-tooth metal-cutting blade or matt knife, carefully score and remove top 2/3rds of last section.

### Attach antenna wire:



1. Tape wire to tip and run externally



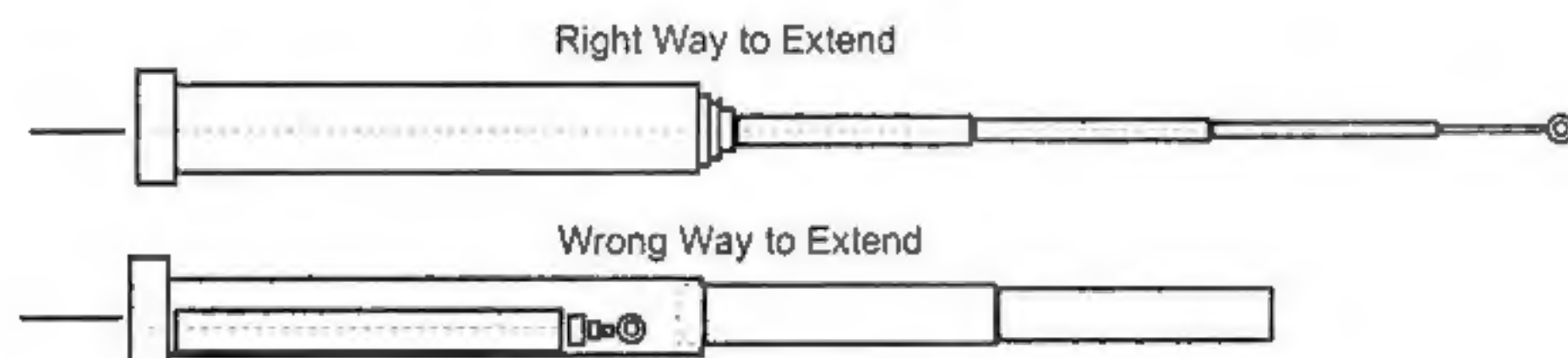
2. Run internally and secure



3. Run internally, solder to ring lug, epoxy.

**Extending the Pole:** During set up, the fiberglass pole must be extended to its full length on the ground before being raised into the vertical plane. Also, each section must be pulled out in sequence -- from the smallest to the largest in diameter. If one or more small-diameter sections accidentally slip down behind larger sections during extension, you'll need to remove the base plug and re-nest them so they "telescope" correctly. To extend the pole:

- [ ] Remove the rubber retaining stopper from the top of the collapsed mast.
- [ ] Uncoil the antenna wire from the roll, stringing it out behind the base plug.
- [ ] Push the antenna wire into the base cap to force the top section of the antenna to emerge.
- [ ] Working from the top down, pull each antenna section out and twist-lock it into place.



As you extract each section, antenna wire will feed in through the base plug. Make sure nothing blocks the feed. When all sections are extended, about two feet of wire should remain. This pigtail will be connected to the red post on the loading coil box once the antenna is in position. Before raising the antenna, *check each section to ensure it is locked securely*. If any section fails to lock by twisting, install a couple turns of tape around the joint to temporarily secure it.

**Important Warning:** Never assemble or raise this antenna where it could fall on power lines. Use the buddy system – have an observer present to assist you.

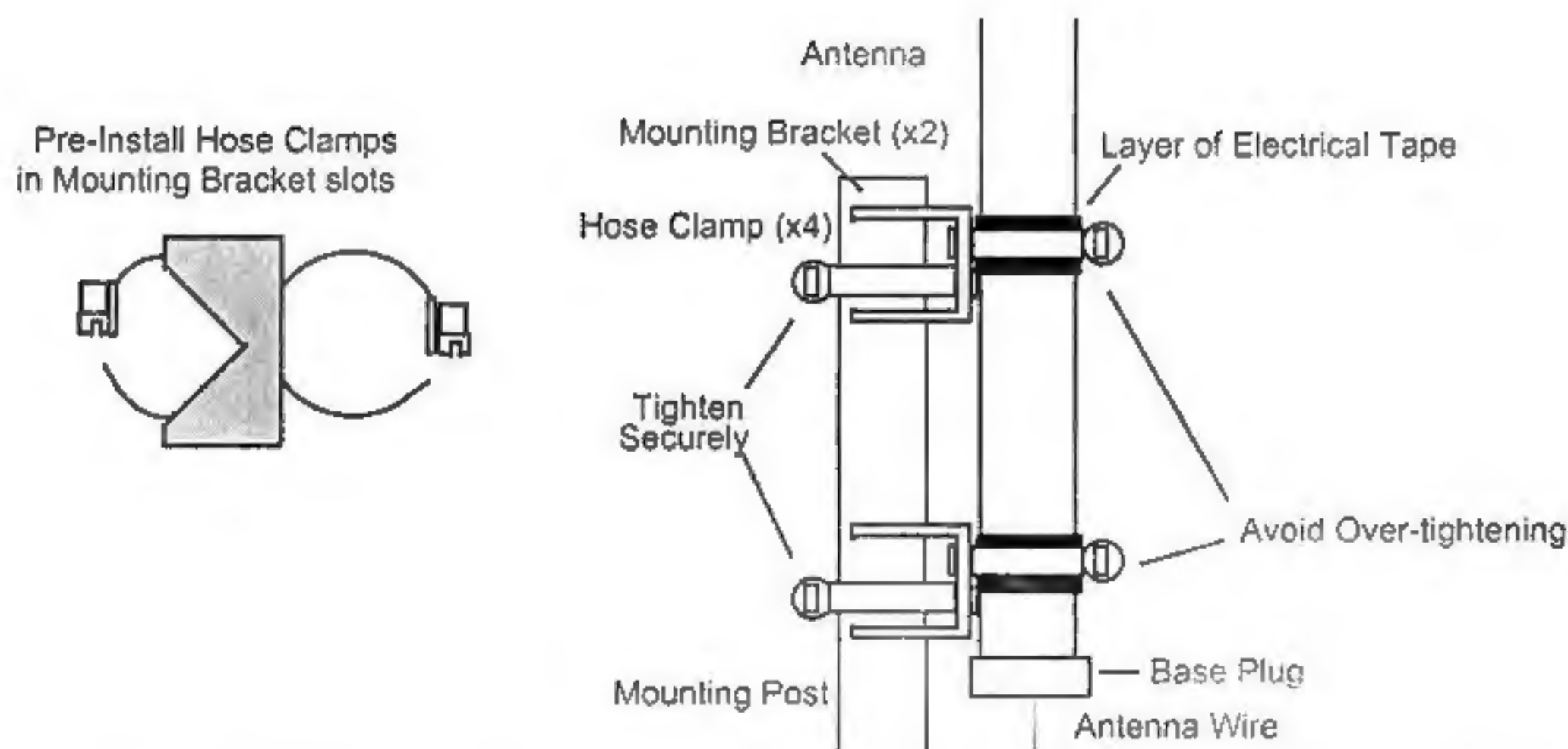
**Raising the Antenna:** When using a fixed vertical mount, the antenna must be extended fully before it can be raised vertically and installed on its mount. If a second person is available, have them steady the pole while you install the hardware.

**Installing Mounting Hardware:** The MFJ-2980 mounting hardware accommodates any vertical post, mast, or tripod stand up to 2 inches in diameter. To mount the antenna:

- [ ] Pre-install all four hose clamps in the mounting-bracket slots, as shown.
- [ ] Install brackets about 1-foot apart on your mounting post. Align and tighten clamps securely.
- [ ] Lift the antenna into position and install hose clamps around it.
- [ ] Tighten clamps sufficiently to hold the antenna in place, but do not over-tighten.

**Important Note:** *Over-tightening the two antenna-side hose clamps can damage the lightweight fiberglass tube. These clamps need only be tight enough to prevent the antenna from slipping downward. A layer of electrical tape may be added to help protect the antenna wall.*

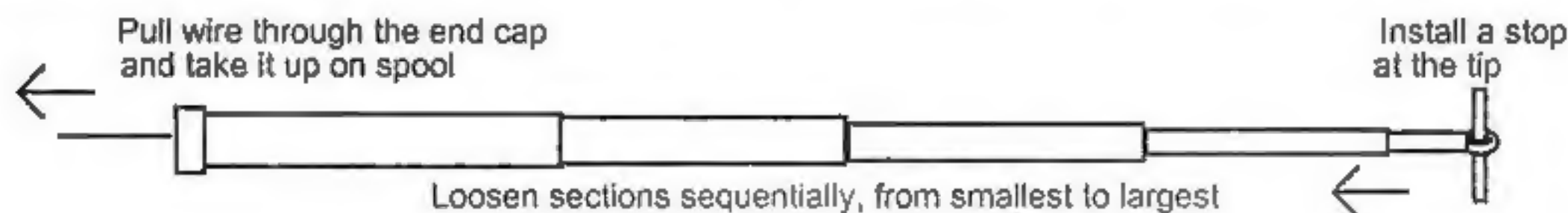




**Collapsing Procedure:** When taking the antenna down, follow the procedure outlined below. Failure to collapse it correctly could un-nest sections or sever the antenna wire. To collapse:

- [ ] Lay the antenna over on the ground
- [ ] Attach a temporary stop at the tip to prevent smaller sections from sliding past larger ones
- [ ] Unlock each section sequentially, one or two at a time, from smallest to largest.
- [ ] Gently extract the antenna wire through the base plug, winding it onto the wire spooler.

As you pull, each section should smoothly slip in and nest in sequence, from smallest to largest. Avoid yanking on the antenna wire if a section binds and stops. Instead, free the sticking section.



- [ ] When the pole is fully nested, remove the temporary stop from the end.
- [ ] Reinstall the rubber end plug to prevent antenna sections from slipping back out.
- [ ] Attach the antenna-wire spooler to the fiberglass pole with elastic bands for transport.

**Tuning:** For the MFJ-2980, the counterpoise provides low SWR and improves efficiency on 40 Meters. On all other bands, the antenna tunes as a 33-foot wire monopole antenna and an antenna tuner is required. On those bands, the counterpoise may be replaced with a ground rod.

### Troubleshooting:

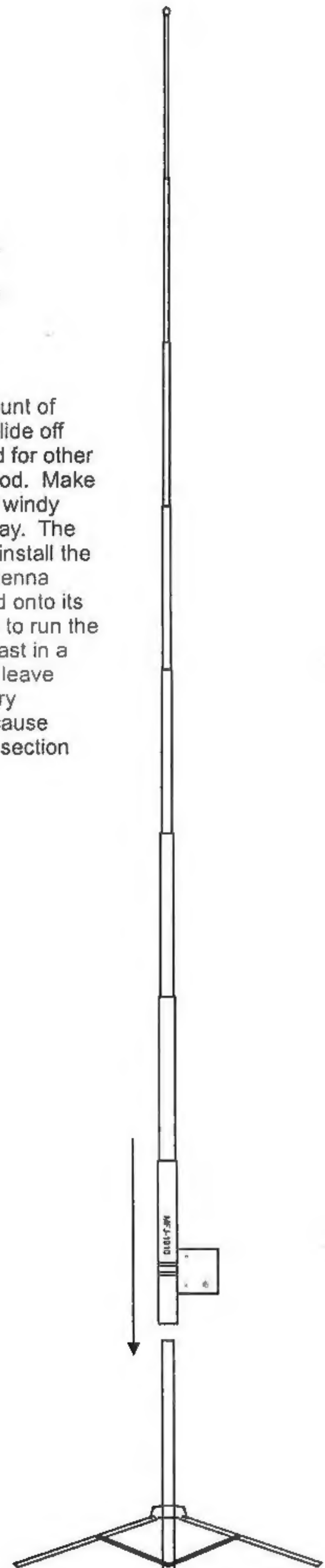
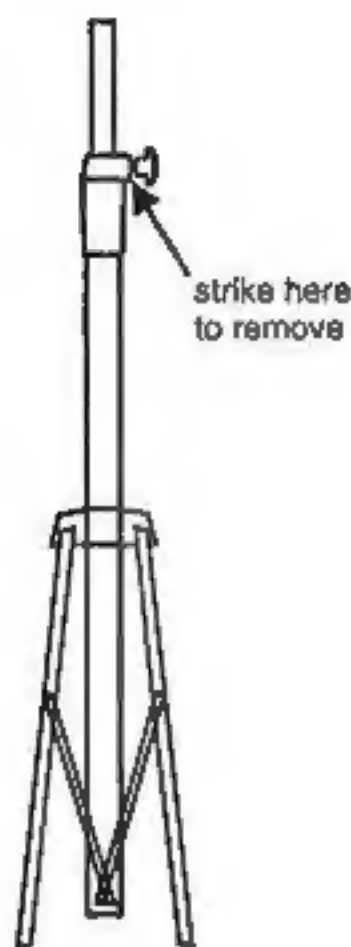
- [ ] *RF feedback:* Provide more physical separation between the feedline and counterpoise wires.
- [ ] *Antenna section fails to twist-lock tightly:* Temporarily tape the slipping joint. Degreasing may also resolve a slippage problem.

**Missing or Defective Parts:** MFJ warrants that all listed items for your MFJ-2980 antenna are included and free from defect. If your kit is missing parts or contains damaged items, contact the factory by phone at (662) 323-5869 to arrange for replacement or write. Our mailing and shipping address is: MFJ Enterprises, 300 Industrial Park Road, Starkville, MS 39759. Please *do not* return any items to MFJ unless explicitly authorized to do by MFJ Customer Service.

# Using the MFJ-1919 tripod to support the Feather-lite vertical antenna

The MFJ-1919 makes a nice portable stand to support the feather-lite antennas. Sliding the antenna over the top of the tripod will hold it vertical once the tripod legs have been fully extended. Removing the mast pole and top clamp from the tripod is recommended as it will allow easy access to the matching unit.

Loosen the mast clamp and remove the mast pole. The clamp has a small amount of glue holding it in place. A tap with a hammer will loosen the clamp and it should slide off the tripod. The clamp and mast will not be used and may be discarded or saved for other uses. The Feather-lite antenna will now slide over the remaining mast of the tripod. Make sure the legs are fully extended before allowing the antenna to stand by itself. If windy conditions are present, then the antenna must be guyed or anchored in some way. The tripod is not capable of keeping the antenna vertical in gusty conditions. Do not install the antenna on un-level ground as this will make it more likely to fall. Extend the antenna fully before attempting to install onto the mast. If you wish, you may tip the tripod onto its side and slide the antenna on so that they may be raised together. If you chose to run the antenna wire outside the mast then you may want to twist the wire around the mast in a candy cane fashion. This will prevent the wire from moving in the wind. Do not leave the antenna up for extended periods of time. This antenna is meant for temporary portable use. Swaying of the antenna will loosen the joints over time and may cause some of the sections to fall down inside the others. This may crack the end of a section and cause it to not lock properly in the future.





## FULL 12 MONTH WARRANTY

MFJ Enterprises, Inc. warrants to the original owner of this product, if manufactured by MFJ Enterprises, Inc. and purchased from an authorized dealer or directly from MFJ Enterprises, Inc. to be free from defects in material and workmanship for a period of 12 months from date of purchase provided the following terms of this warranty are satisfied.

1. The purchaser must retain the dated proof-of-purchase (bill of sale, canceled check, credit card or money order receipt, etc.) describing the product to establish the validity of the warranty claim and submit the original or machine reproduction or such proof of purchase to MFJ Enterprises, Inc. at the time of warranty service. MFJ Enterprises, Inc. shall have the discretion to deny warranty without dated proof-of-purchase. Any evidence of alteration, erasure, or forgery shall be cause to void any and all warranty terms immediately.
2. MFJ Enterprises, Inc. agrees to repair or replace at MFJ's option without charge to the original owner any defective product under warranty provided the product is returned postage prepaid to MFJ Enterprises, Inc. with a personal check, cashiers check, or money order for \$7.00 covering postage and handling.
3. MFJ Enterprises, Inc. will supply replacement parts free of charge for any MFJ product under warranty upon request. A dated proof of purchase and a \$5.00 personal check, cashiers check, or money order must be provided to cover postage and handling.
4. This warranty is **NOT** void for owners who attempt to repair defective units. Technical consultation is available by calling (601) 323-5869.
5. This warranty does not apply to kits sold by or manufactured by MFJ Enterprises, Inc.
6. Wired and tested PC board products are covered by this warranty provided **only the wired and tested PC board product is returned**. Wired and tested PC boards installed in the owner's cabinet or connected to switches, jacks, or cables, etc. sent to MFJ Enterprises, Inc. will be returned at the owner's expense unrepai red.
7. Under no circumstances is MFJ Enterprises, Inc. liable for consequential damages to person or property by the use of any MFJ products.
8. **Out-of-Warranty Service:** MFJ Enterprises, Inc. will repair any out-of-warranty product provided the unit is shipped prepaid. All repaired units will be shipped COD to the owner. Repair charges will be added to the COD fee unless other arrangements are made.
9. This warranty is given in lieu of any other warranty expressed or implied.
10. MFJ Enterprises, Inc. reserves the right to make changes or improvements in design or manufacture without incurring any obligation to install such changes upon any of the products previously manufactured.
11. All MFJ products to be serviced in-warranty or out-of-warranty should be addressed to **MFJ Enterprises, Inc., 300 Industrial Park Road, Starkville, Mississippi 39759, USA** and must be accompanied by a letter describing the problem in detail along with a copy of your dated proof-of-purchase.
12. This warranty gives you specific rights, and you may also have other rights which vary from state to state.



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